

Application No. 10/955,047
Reply to Office Action of March 01, 2006

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THE CLAIMS

Claims 1-19 are pending in the instant application. Claims 1, 2, 4, 5, and 8-19 are currently rejected. Claims 3, 6 and 7 are objected to.

The Applicant has amended Claim 15.

The Applicants request reconsideration of all the claims in view of the remarks that follow.

Listing of claims:

1. (Original) A multi-mode wireless communication device, comprising:

a host baseband processor configured to operate in accordance with a first wireless communications protocol of a first wireless communications system;

a baseband co-processor configured to operate in accordance with a second wireless communications protocol of a second wireless communications system; and

means for establishing, within said device, timing synchronization between said first and second wireless communications systems on the basis of timing information transferred to said host baseband processor from said baseband co-processor.
2. (Original) The multi-mode communications device of claim 1 wherein said means for establishing timing synchronization includes means for issuing, from said host baseband processor, a timer capture interrupt to said baseband co-processor during a predetermined timer phase of said first wireless communications system.
3. (Original) The multi-mode communication device of claim 2 wherein said baseband co-processor is configured to provide at least one timer value pertinent to a timing state of said second wireless communications system to said host baseband processor in response to issuance of said timer capture interrupt, said means for synchronizing determining a timing difference between said first and second wireless

Application No. 10/955,047

Reply to Office Action of March 01, 2006

communication systems based upon said predetermined timer phase and said at least one timer value.

4. (Original) The multi-mode communications device of claim 1 wherein said means for establishing timing synchronization includes means for reading a current value of at least one timer maintained by said baseband co-processor consistent with said second wireless communications protocol.

5. (Original) The multi-mode communications device of claim 1 wherein said host baseband processor further includes a higher-layer processing module and a modem for interfacing with said first wireless communication system, said higher-layer processing module being operatively coupled to said modem and to a baseband interface of said baseband co-processor.

6. (Original) The multi-mode communications device of claim 3 wherein said second wireless communications protocol comprises WCDMA, said baseband co-processor including first and second registers adapted to store said at least one timer value and an additional timer value pertinent to said second wireless communications protocol.

7. (Original) The multi-mode communications device of claim 6 wherein said at least one timer value corresponds to a slot counter and said additional timer value corresponds to a sample counter.

8. (Original) The multi-mode communications device of claim 1 wherein said host baseband processor includes a higher-layer processor configured to effect higher-layer processing of information processed by said baseband co-processor.

9. (Original) A timing synchronization method, comprising:

configuring a host baseband processor of a multi-mode device to operate in accordance with a first wireless communications protocol of a first wireless communications system;

Application No. 10/955,047

Reply to Office Action of March 01, 2006

configuring a baseband co-processor of a multi-mode device to operate in accordance with a second wireless communications protocol of a second wireless communications system;

establishing, within said device, timing synchronization between said first and second communication systems on the basis of timing information transferred to said host baseband processor from said baseband co-processor.

10. (Original) The method of claim 9 wherein said establishing includes issuing a timer capture interrupt to said baseband co-processor.

11. (Original) The method of claim 10 wherein said establishing further includes providing at least one timer value pertinent to a timing state of said second wireless communications system to said host baseband processor in response to issuance of said timer capture interrupt.

12. (Original) The method of claim 9 wherein said establishing includes reading a current value of at least one timer maintained by said baseband co-processor consistent with said second wireless communications protocol.

13. (Original) The method of claim 11 wherein said second wireless communications protocol comprises WCDMA, said establishing including storing at least one timer value and an additional timer value pertinent to an additional timing state of said second wireless communications system in first and second registers of said baseband co-processor.

14. (Original) The method of claim 9 wherein said host baseband processor is further configured to effect higher-layer processing of information processed by said baseband co-processor.

15. (Currently Amended) A method for ~~establishing timing synchronization between a first wireless communication system and a second wireless communication system within a multi-mode communication device~~, the method comprising:

Application No. 10/955,047

Reply to Office Action of March 01, 2006

generating within a multi-mode communication device, a timer capture interrupt during a predetermined timing phase of ~~said a~~ first wireless communication system, wherein said multi-mode communication device communicates via a first wireless protocol with said first wireless communication system, and said multi-mode communication device communicates via a second wireless protocol with a second wireless communication system;

storing a timer value of at least one time pertinent to operation of said second wireless communication system in response to said timer capture interrupt;

reading said timer value; and

determining a timing relationship between said first and second wireless communication systems based upon said timer value.

16. (Original) The method of claim 15 further ~~including~~ comprising:

storing an additional timer value of at least one other timer pertinent to operation of said second wireless communication system in response to said timer capture interrupt;

reading said additional timer value, said timing relationship being based at least in part upon said additional timer value.

17. (Original) The method of claim 15 wherein one or more timers are incremented pursuant to operation of said first wireless communication system, said determining a timing relationship including comparing at least one value of said one or more timers with said timer value.

18. (Original) The method of claim 15 wherein said first wireless communications system operates in accordance with a first wireless communications protocol and said second wireless communications system operates in accordance with a second wireless communications protocol different from said first wireless communications protocol.

Application No. 10/955,047

Reply to Office Action of March 01, 2006

19. (Original) The method of claim 18 wherein said first wireless communications protocol comprises GSM and said second wireless communications protocol comprises WCDMA.